

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

REPORT NO. 3546

THE ATCHISON, TOPEKA AND SANTA FE  
RAILWAY COMPANY

IN RE ACCIDENT

AT MOORE, OKLA., ON

NOVEMBER 13, 1953



SUMMARY

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Date: November 13, 1953

Railroad: Atchison, Topeka and Santa Fe

Location: Moore, Okla.

Kind of accident: Collision

Equipment involved: Passenger train : Motor-truck

Train number: 15

Engine number: Diesel-electric units  
43C, 43B, 43A, and 43L

Consist: 13 cars

Estimated speeds: 81 m. p. h. : 5 m. p. h.

Operation: Timetable, train orders, and  
automatic block-signal system

Track: Single; tangent; 0.44 percent  
descending grade westward

Highway: Tangent; crosses track at angle of  
90°08'; 1.4 percent ascending grade  
northward

Weather: Clear

Time: 9:23 a. m.

Casualties: 44 injured

Cause: Motor-truck occupying rail-highway  
grade crossing immediately in front  
of approaching train



INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3546

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS  
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

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January 12, 1954

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Accident at Moore, Okla., on November 13, 1953, caused by  
a motor-truck occupying a rail-highway grade crossing  
immediately in front of an approaching train.

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REPORT OF THE COMMISSION<sup>1</sup>

CLARKE, Commissioner:

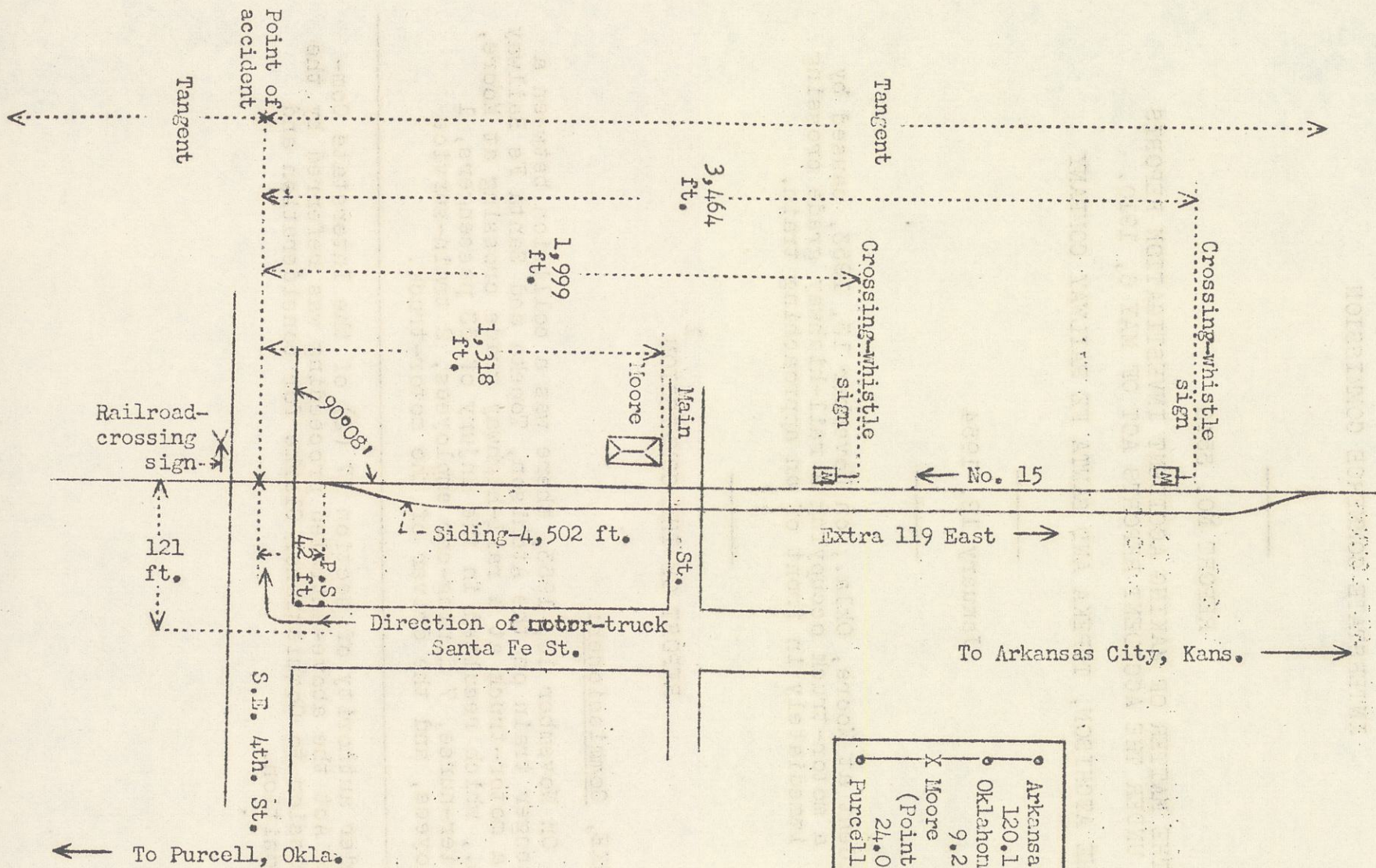
On November 13, 1953, there was a collision between a passenger train on the Atchison, Topeka and Santa Fe Railway and a motor-truck at a rail-highway grade crossing at Moore, Okla., which resulted in the injury of 33 passengers, 1 courier-nurse, 7 dining-car employees, 2 train-service employees, and the driver of the motor-truck.

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Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.





Report No. 3546  
 Atchison, Topeka and Santa Fe Railway  
 Moore, Okla.  
 November 13, 1953



### Location of Accident and Method of Operation

This accident occurred on that part of the Oklahoma Division extending between Arkansas City, Kans., and Purcell, Okla., 153.3 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable, train orders, and an automatic block-signal system. The accident occurred on the main track at a point 129.5 miles west of Arkansas City and 1,318 feet west of the station at Moore, Okla., where the railroad is crossed at grade by S.E. 4th Street. The track at this point extends practically north and south, and the highway practically east and west. Timetable directions on the railroad are east and west, and these directions are used in this report. The railroad is tangent throughout a distance of more than 1 mile immediately east of the point of accident and a considerable distance westward. The grade for west-bound trains is 0.44 percent descending at the point of accident. At Moore a siding 4,502 feet long parallels the main track on the south. The west switch of this siding is 42 feet east of the point of accident. S.E. 4th Street is tangent throughout a considerable distance on each side of the crossing and intersects the railroad at an angle of  $90^{\circ}08'$ . The crossing is 24 feet in width and is surfaced with planking to the level of the tops of the rails. The street is surfaced with sand and is 24 feet in width. South of the crossing Santa Fe Street extends eastward from S.E. 4th Street and parallels the railroad at a distance of 121 feet. The grade for north-bound vehicles on S.E. 4th Street between Santa Fe Street and the main track of the railroad is, successively, 5.2 percent ascending 61 feet, 3.1 percent ascending 32 feet, and 1.4 percent ascending 28 feet to the crossing.

A standard cross-buck railroad-crossing sign is located to the left of the direction of north-bound traffic on S.E. 4th Street, approximately 21 feet west of the center-line of the street and 16 feet 4 inches north of the center-line of the main track. This sign is mounted on a mast 10 feet above the level of the street and bears the words "RAILROAD CROSSING" in black on a white background. The mast bears the words "LOOK OUT FOR THE CARS" in black on a white background. A crossing-whistle sign for west-bound trains is located 1,999 feet east of the crossing.



This carrier's operating rules read in part as follows:

14. Engine Whistle Signals

Note:-The signals prescribed are illustrated by "o" for short sounds; "-" for longer sounds.

| SOUND       | INDICATION  |
|-------------|---|
| ***         |   |
| (1) - - o - | Approaching public crossings at grade, *** to be prolonged or repeated until crossing is reached. |

30. The engine bell must be rung \*\*\* while approaching and passing public crossings at grade

The maximum authorized speed for passenger trains was 90 miles per hour.

Description of Accident

No. 15, a west-bound first-class passenger train, consisted of Diesel-electric units 43C, 43B, 43A, and 43L, coupled in multiple-unit control, two baggage cars, one baggage-mail car, four chair cars, one dining car, one lounge car, and four sleeping cars, in the order named. All cars were of lightweight steel construction. This train departed from Oklahoma City, Okla., 9.2 miles east of Moore, at 9:12 a. m., 17 minutes late, and while moving at a speed of 81 miles per hour, as indicated by the tape of the speed recording device, it struck a motor-truck at the rail-highway grade crossing at S.E. 4th Street in Moore and was derailed.

The vehicle involved was a tractor and semi-trailer owned by Peppers Refining Company of Oklahoma City. The driver, who was the sole occupant, held Oklahoma chauffeur's license No. 22543. The tractor was a 1948 model International. It bore Oklahoma license No. 106-277. It was powered by a six-cylinder gasoline engine, Model K5511, and was provided with an enclosed cab and with dual wheels and tires at the rear. The



semi-trailer was a 1948 model Fruehauf. It bore Oklahoma license No. 60-023. It consisted of a platform mounted on tandem axles with dual wheels and tires. Both the tractor and the semi-trailer were equipped with air brakes. At the time of the accident the cargo consisted of 2,265 feet of 2-inch and 3-inch pipe, together with three valves. It was loaded at Oklahoma City and was to be delivered in Cement, Okla. The total weight of the vehicle and cargo was approximately 43,660 pounds, and the total length was approximately 39 feet. This vehicle approached the crossing from the east on Santa Fe Street, turned right and into S.E. 4th Street, and stopped on the south approach to the crossing. It then proceeded northward, and while moving over the crossing at a speed of about 5 miles per hour it was struck by No. 15.

The locomotive, the first 10 cars, and the front truck of the eleventh car of No. 15 were derailed. All of the Diesel-electric units became separated, and separations also occurred at each end of the first three cars. The first Diesel-electric unit stopped upright, 30 feet north of the track and approximately parallel to it, with the front end 868 feet west of the point of accident. The second unit stopped on its left side, with the front end 89 feet north of the track and 766 feet west of the point of accident and the rear end 44 feet north of the track. The third unit stopped on its right side, with the front end 35 feet north of the track and 716 feet west of the point of accident and the rear end 19 feet north of the track. The fourth unit stopped on its right side, at an angle of approximately 90 degrees to the track, with the front end against the rear end of the third unit and the rear end toward the north. The first two cars stopped on their sides, against the fourth Diesel-electric unit and parallel to it. The third car stopped upright, against the second car and parallel to it. The other derailed cars stopped upright and approximately in line, with the front end of the fourth car 40 feet north of the track and the front end of the eleventh car on the track structure. The Diesel-electric units and the first three cars were badly damaged. The trucks and the appurtenances below the floor level of the fourth to the ninth cars, inclusive, were considerably damaged.

The tractor and the semi-trailer were separated as a result of the collision. The tractor stopped 20 feet north of the track and 40 feet west of the crossing. It was badly damaged. The semi-trailer was demolished, and the wreckage stopped in the southwest angle of the intersection.



The engineer and the fireman were injured.

The weather was clear at the time of the accident, which occurred at 9:23 a. m.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing was 18.7 trains. During the 24-hour period beginning at 10 a. m., November 30, 1953, 246 automobiles, 60 trucks, and 3 buses passed over the crossing.

#### Discussion

About 10 minutes before the accident occurred Extra 119 East, an east-bound freight train, entered the siding at Moore and stopped with the rear end about 700 feet east of the crossing at S.E. 4th Street. This train consisted of 3 Diesel-electric units, 78 cars, and a caboose. Immediately after No. 15 passed the east siding-switch, Extra 119 East departed east-bound; however, the cars of this train materially restricted the view from both the truck and the passenger train as they approached the crossing.

As No. 15 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive. The members of the train crew were in various locations in the cars of the train. The headlight was lighted brightly. The brakes of the train had been tested and had functioned properly when used en route. The fireman, who was operating the locomotive, sounded the grade-crossing whistle signal on the pneumatic horn as the train approached Main Street, 1,430 feet east of S.E. 4th Street, and continued to sound the horn as the train moved between Main Street and S.E. 4th Street. The bell was ringing during this time. As the front of the train was closely approaching the caboose of Extra 119 East, the enginemen observed the motor-truck on S.E. 4th Street moving slowly toward the crossing. They thought the truck was approximately 50 feet south of the crossing when they first saw it. The fireman sounded a series of short blasts on the pneumatic horn in an effort to attract the driver's attention. When he saw that the truck would not stop short of the crossing he made an emergency application of the brakes. According to the tape of the speed recording device, the speed was 82.5 miles per hour when the brake application became effective and 81 miles per hour when the collision occurred.



The driver of the motor-truck said that he stopped the truck on the south approach to the crossing and looked for approaching trains. He saw Extra 119 East on the siding but did not see or hear another train. He started the truck forward, and first observed No. 15 approaching and heard the sound of the pneumatic horn as the truck was entering the crossing. He thought the train was about 500 feet east of the crossing when he first saw it.

Except for a pole line which parallels the main track on the south at a distance of about 60 feet, the driver of a north-bound vehicle moving on S.E. 4th Street between Santa Fe Street and the crossing ordinarily would have an unobstructed view of an approaching west-bound train. However, at the time of the accident the siding was occupied by a freight train. Under this condition the locomotive of an approaching west-bound train is not visible to the driver of a north-bound vehicle until the locomotive is closely approaching the rear end of the freight train or the vehicle is about to enter the crossing.

At the time the accident occurred the maximum authorized speed for passenger trains in the vicinity of the point of accident was 90 miles per hour. In November, 1950, an ordinance was passed which restricted the speed of trains to 50 miles per hour while moving over street crossings within the City of Moore, but this ordinance had not come to the attention of any of the operating officials of the carrier. After the accident occurred and the matter was brought to the attention of the officials of the carrier, a speed restriction of 50 miles per hour was imposed in accordance with the ordinance.

#### Cause

It is found that this accident was caused by a motor-truck occupying a rail-highway grade crossing immediately in front of an approaching train.

Dated at Washington, D. C., this twelfth day of January, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,  
Secretary.



